

Application No.: 10/576,422
Amendment under 37 CFR 1.111
Reply to Office Action dated February 18, 2009
May 18, 2009

AMENDMENTS TO THE DRAWINGS

In reference numeral 132 of Fig. 8, the word "Seach" has been amended to "Search". Also, in step S1004 of Fig. 10, the word "Caluculate" has been amended to "Calculate". Therefore, please replace these drawing sheets for the original drawing sheets including Figs. 8 and 10.

Attachment: Replacement Drawing Sheets for Figs. 8 and 10

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REMARKS

By this amendment, Figs. 8 and 10 have been amended, claims 2-10, 13 and 15-20 have been cancelled and claims 1 and 14 have been amended in the application. Currently, claims 1, 11-12 and 14 are pending in the application.

Claims 13 and 18 were rejected under 35 USC 112, second paragraph, as being indefinite. Since claims 13 and 18 have been cancelled, this rejection is now moot.

Claims 4 and 5 were rejected under 35 USC 103(a) as being obvious over Komori et al. (U.S. Patent No. 6,046,937). Since claims 4 and 5 have been cancelled, this rejection is also now moot.

Claims 1, 2 and 7 were rejected under 35 USC 102(b) as being anticipated by Komori et al. Also, claims 3, 6 and 8-12 were rejected under 35 USC 103(a) as being obvious over Komori et al. in view of Yoshino et al. (U.S. Patent Application Publication No. 2002/0083282). Also, claims 13 and 14 were rejected under 35 USC 103(a) as being obvious over Komori et al. in view of Shibazaki et al. (U.S. Patent Application Publication No. 2001/0014933). Further, claims 15-20 were rejected under 35 USC 103(a) as being obvious over Komori et al. in view of Shibazaki et al., and further in view of Yoshino et al.

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These rejections are respectfully traversed in view of the amendments to the claims and the remarks below.

The present invention relates to a readable and writable recording medium, and a data processing apparatus and data processing method for processing data stored in the recording medium (see page 1, lines 8-11 of the specification).

In Fig. 1, a recording medium 100 includes a host interface part 110, a controller 120, a recording area 130, an update notification part 140 and a medium ID holder 150 (see page 8, lines 7-10 of the specification).

In Fig. 3, a data processing device 200 mounts the recording medium 100 to perform data processing and includes a slot 210, an input/output processor 220, a data processor 230, an user input processor 240 and a display processor 250 (see page 13, lines 4-8 of the specification).

As shown in Fig. 8, an index file 300 is a file which stores the information of a plurality of contents files and has fields for storing information including a value of the medium-specific ID 150, update information in the update notification part 140, the number of contents files recorded in the recording medium 100, total playback time of the contents file recorded in the recording medium 100, information in each contents file and play

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list describing playback order of the contents files (see page 32, lines 4-14 of the specification).

Fig. 9 is a flowchart showing an operation sequence of the data processing apparatus 200 in the case where the recording medium 100 is mounted to the data processing apparatus 200.

At the step S902, the data processor 230 reads an index file 300 of the recording medium 100 attached to the slot 210 via the input/output processor 220 on the memory. The information in the search storage area 132 is used as positional information of the index file 300 in the data storage area 131. At a step S903, the data processor 230 reads the value of the update notification part 140 of the recording medium 100 attached to the slot 210 via the input/output processor 220 and temporarily stores the value on the memory.

In step S904, the update information in the update notification part 140 read at the step S903 is compared to the update information in the update information field of the index file 300 read at the step S902. When above both update information correspond to each other, the operation proceeds to processing of step S905. When above both update information do not correspond to each other, the operation proceeds to processing of step S906. At the step S905, after the index file 300 of the recording medium 100 attached to the slot 210 is

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created, the data processor 230 determines that data in the recording area 130 is not updated. Then, the processing using the information in the index file 300 is performed. The processing using the information in the index file 300 is to output a list of the contents data, for example, stored in the recording medium 100 to the display processor 250.

In the step S906, the data processor 230 performs processing without using the index file 300 regardless of the existence of the index file 300. For example, information in the data search information storage area 132 of the recording medium 100 is read and the list of the contents data stored in the recording medium 100 is output to the display processor 250 (see page 34, line 1 - page 35, line 23 of the specification).

Fig. 12 is a flowchart showing an operation sequence in the case where the recording medium 100 receives a command from the data processing apparatus 200. At step S1201, when receiving the command from the data processing apparatus 200, the host interface part 110 notifies the command to the controller 120. At step S1202, the controller 120 determines the type of the command notified at the step S1201 and determines whether or not the command is a command to update the recording area 130. The command to update the recording area 130 is, for example, the

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write command to write the data or the erase command to erase the data. When it is the command to update, the operation proceeds to a processing at a step S1203. When it is the other command, the operation proceeds to processing at the step S1206. The other command is, for example, the read command to read the data.

At the step S1203, the controller 120 determines whether or not it is the command to first update the recording area 130 after initialization processing.

After the initialization processing, the recording medium 100 updates the value of the update notification part 140 immediately before the data of the recording area 130 is updated. In embodiment 3 of the present invention, only one update is required after initialization. Thus, when the recording medium is mounted to the data processing apparatus and continuously used without being removed, rewriting of the update information becomes unnecessary, thereby shortening the processing time (see page 44, line 9 - page 46, line 19 of the specification).

By this amendment, independent claim 1 has been amended to include the claimed features of cancelled claim 8. Specifically, independent claim 1 has been amended to recite "update information in said update notification part is updated only

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immediately before data of said recording area is first updated after initialization processing of said recording medium".

Also, independent claim 14 has been amended to include the claimed features of cancelled claim 17. Specifically, independent claim 14 has been amended to recite the step of "determining whether or not data of said recording area in said recording medium has been updated after said data was recorded by determining whether or not update information of field in the recording area read from said recording medium corresponds to update information in said update notification part read from said recording medium". These claimed features are not shown or suggested by Komori et al., Yoshino et al. and Shibasaki et al.

Komori et al. relates to an electronic control unit, which executes on-board rewriting of control programs and control data used for regulating operations of predetermined mechanisms or objects to be controlled (see col. 1, lines 14-17).

Komori et al. disclose that in Fig. 1, an electronic control unit (ECU) 2 is mounted on a vehicle (automobile) for controlling an internal combustion engine. The ECU 2 comprises sensors 4, an input processing circuit (IPC) 6, a microcomputer 8, driving actuators (ACT) 10, an output circuit (OC) 12, an ignition switch 17 and a power supply circuit 18 (see col. 4, lines 16-34).

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Komori et al. also disclose that the microcomputer 8 comprises a known central processing unit (CPU) 20, a nonvolatile flash memory 22, a masked ROM 24 for storing programs (more particularly, data constituting programs), a volatile RAM 26 and an input/output (I/O) circuit 28 (see col. 4, lines 41-48).

Komori et al. also disclose that the flash memory 22 is a nonvolatile read-only memory capable of electrically erasing and rewriting contents therein (electrically rewritable ROM) (see col. 4, lines 53-54).

Komori et al. do not disclose that update information in said update notification part is updated only immediately before data of said recording area is first updated after initialization processing of said recording medium as claimed in independent claim 1.

Komori et al. also do not disclose the step of determining whether or not data of said recording area in said recording medium has been updated after said data was recorded by determining whether or not update information of field in the recording area read from said recording medium corresponds to update information in said update notification part read from said recording medium as claimed in independent claim 14.

For these reasons, it is believed that Komori et al. do not show or suggest the presently claimed features of the present

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invention. Applicants also submit that Yoshino et al. do not make up for the deficiencies in Komori et al.

Yoshino et al. relate to data processing devices and data processing methods, and program providing media used therewith (see page 1, paragraph [0002]).

Yoshino et al. disclose that with the rapid spread of the internet in recent years and the spread of compact mobile players and portable game machines, the distribution of various types of software data, such as music data, game programs, and image data, via a network such as the internet or by storage media, such as digital versatile disks (DVDs), compact disks (CDs), and memory cards, is rapidly increasing (see page 1, paragraph [0004]).

Yoshino et al. also disclose that a media 1 includes a control unit 211 that controls the input and output of data, and a memory unit 212 that stores the content. The memory unit 212 not only stores the content together with corresponding header information, but also stores a media identifier (ID) as identification information unique to each media, and a block permission table (BPT) as an access permission table describing memory-access control information (see page 5, paragraph [0095]).

Yoshino et al. also disclose that Fig. 11 is a flowchart showing a process in which a media creator sets a BPT (Block

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Permission Table) in media 1 having no mutual authentication processing function (see page 10, paragraphs [0282] - [0284]).

Yoshino et al. do not disclose that update information in said update notification part is updated only immediately before data of said recording area is first updated after initialization processing of said recording medium as claimed in independent claim 1.

Yoshino et al. also do not disclose the step of determining whether or not data of said recording area in said recording medium has been updated after said data was recorded by determining whether or not update information of field in the recording area read from said recording medium corresponds to update information in said update notification part read from said recording medium as claimed in independent claim 14.

Applicants respectfully submit that it would not have been obvious to one of ordinary skill in the art to combine the electronic control unit (EUC) 2 mounted on a vehicle (automobile) of Komori et al. and the media creator of Yoshino et al. to render the present claims obvious. Specifically, applicants note that the Examiner admitted that Komori et al. do not disclose that the update information is updated only for after initialization processing. The Examiner believed that Yoshino et al. disclosed initialization processing. However, applicants

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respectfully submit that the presently claimed features cannot be achieved by a combination of these references.

Even if the electric control unit of Komori et al. had an initialization process (which is not disclosed or suggested in Komori et al.), the update information is not updated after initialization processing. According to the recording medium of the present invention, only one update is required after initialization as described in paragraph [0095] of the specification.

For these reasons, it is believed that Yoshino et al. do not show or suggest the presently claimed features of the present invention. Applicants also submit that Shibazaki et al. do not make up for the deficiencies in Komori et al. and Yoshino et al.

Shibazaki et al. relate to a method of producing a memory management table that has control over memories having a function to hold data at a time of power cut-off and manages identifier information of memory areas to be data storage destinations designated by a logical address issued by a host device, and to a memory device for which the method is employed (see page 1, paragraph [0001]).

Shibazaki et al. disclose that a memory device 1 comprises one or a plurality of memories 10, a CPU 11, a controller 12 and a bus 13 (see page 2, paragraph [0047]).

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Shibazaki et al. do not disclose that update information in said update notification part is updated only immediately before data of said recording area is first updated after initialization processing of said recording medium as claimed in independent claim 1.

Shibazaki et al. also do not disclose the step of determining whether or not data of said recording area in said recording medium has been updated after said data was recorded by determining whether or not update information of field in the recording area read from said recording medium corresponds to update information in said update notification part read from said recording medium as claimed in independent claim 14.

It is therefore respectfully submitted that Komori et al., Yoshino et al. and Shibazaki et al., individually or in any combination, do not teach, disclose or suggest the presently claimed invention and it would not have been obvious to one of ordinary skill in the art to combine these references to render the present claims obvious.


In view of foregoing claim amendments and remarks, it is respectfully submitted that the application is now in condition for allowance and an action to this effect is respectfully requested.

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If there are any questions or concerns regarding the amendments or these remarks, the Examiner is requested to telephone the undersigned at the telephone number listed below.

Respectfully submitted,

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